



GOVERNMENT OF KARNATAKA

(OS)

KARNATAKA STATE PRE-UNIVERSITY EDUCATION EXAMINATION BOARD

II YEAR PUC EXAMINATION

May 2017 (OS)

SCHEME OF VALUATION

Subject Code : 31

Subject : Statistics

Qn. No.		Marks
<u>I</u>	<u>Section - A</u>	
1)	STDR	01
(2)	$P_{01} = \frac{\sum P_1}{\sum P_0} \times 100$	01
3)	Fisher's g. no.	01
4)	Definition	01
5)	Mean = P	01
6.	0.5	01
7.	one use	01
8	df. = (n-3)	01
9	Non-negativity restriction	01
10.	Chance causes	01
<u>II</u>	<u>Section - B</u>	
11.	Formula	01
	MMR = 8.078	01
12	Four points	02

Qn No.		Marks
13	V_{01} - formula $V_{01} = 113.48$	01
14	Four components	02
15	$V(x) = npq$, $q = \frac{2}{3}$ $V(x) = 1.33$	01
16	$\beta_1 = 0$, $\beta_2 = 3$	1+1
17	Definitions	1+1
18	$SE(b)$ - formula $SE(b) = 0.0642$	01
19	Definitions	1+1
20	$A(10, 8)$ $Z = 64$ $B(12, 4)$ $Z = 60$	01
	$\max Z = 64$, at $A(10, 8)$	01
21	Two needs	02
22	Meaning of SSP & DSP	1+1

Qn. No.	Section - C	Marks
23	GFR - formula	01
	GFR = 96.04	01
	ASFR - formula	01
	ASFR = 200 (25-29) ASFR = 100 (30-34)	1+1
24	7 Steps	03
	Two explanation	02
25	C.P.I formula, $P = \frac{P_1}{P_0} \times 100$	02
	P: 110, 173.33, 112.5, 104.166, 118.75	01
	$\Sigma PW = 12116.66$	01
	CPI = 121.16	01
26	4 yearly M.T: 61 64 65 69 72	02
	2 yearly C.M.T: 125 129 134 141	01
	T.V. : 15.62 16.125 16.75 17.62	01
	Position	01
27	P.m.f —	01
	P(X=0) — Substitutiān $P(X=0) = 0.07776$	1+1
	P(X=5) — Substitutiān $P(X=5) = 0.0120$	1+1

Scheme of Valuation :

Qr. No.		Marks
28	Substitution, $\lambda = 0.5$	1+1
	S.d. = 0.707	01
	$P(X=2) \rightarrow$ substitution & Simplification	01
	$P(X=2) = 0.0758$	01
29	$n=64, \bar{x}=68, \mu_0=70, \sigma=9$	01
	$H_0: \mu = \mu_0, H_1: \mu \neq \mu_0$	01
	$Z \rightarrow$ formula	01
	$Z = -1.77$	01
	$\alpha = 5\%, K = \pm 1.96$	01
	Accept H_0	
30	$H_0: P_1 = P_2, H_1: P_1 \neq P_2$	01
	$P = 0.0145, Q = 0.9855$	01
	$Z \rightarrow$ Test Statistic formula	01
	$Z = 1.953$	01
	$\alpha = 1\%, K = \pm 2.58, \text{Accept } H_0$	01
31.	$H_0: \text{The die is unbiased}$	01
	$H_1: \text{--- " --- biased}$	
	$\chi^2 \rightarrow$ formula or Table	01
	$\chi^2 = 18.92$	01
	$\alpha = 5\%, df = 5, K_2 = 11.07$	01
	Reject H_0	01

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36	$\left. \begin{aligned} \sum P_0 Q_0 &= 480, & \sum P_1 Q_1 &= 557 \\ \sum P_1 Q_0 &= 636, & \sum P_0 Q_1 &= 425 \end{aligned} \right\}$	04
	$P_{01}(L) \rightarrow \text{formula}, P_{01}(L) = 132.5$	1+1
	$P_{01}(P) \rightarrow \text{formula}, P_{01}(P) = 131.05$	1+1
	$P_{01}(D-B) \rightarrow \text{formula}, P_{01}(D-B) = 131.775$	1+1
37	$\left. \begin{aligned} \text{Table values; } \sum y &= 350, & \sum x &= 0 \\ \sum x^2 &= 10, & \sum xy &= 140 \end{aligned} \right\}$	03
	$a = \frac{\sum y}{n}, a = 70$	1+1
	$b = \frac{\sum xy}{\sum x^2}, b = 14$	1+1
	T.V. : 42, 56, 70, 84, 98	2
	Profit in 2006 $\rightarrow y_{2006} = 112$	01
38	$H_0: \mu_1 = \mu_2, H_1: \mu_1 \neq \mu_2$	01
	$\bar{x}_1 = 9, \bar{x}_2 = 10$	1+1
	$S_1^2 = 12.4, S_2^2 = 7.714$	1+1
	$S_p^2 = 11.6$	01
	Test statistic 't' formula	01
	$t = -0.5025$	01

Qn. No.		Marks
	$d.f = 10$ $\alpha = 5\%$ $-K_1 = -2.228$ $K_2 = 2.228$	01
	H_0 is accepted	01
<u>V</u>	<u>Section - E</u>	
39)	$Z = \frac{X - \mu}{\sigma}$	01
	$Z = -1, \quad Z = +1$	1+1
	$P(-1 < Z < 1) = 0.3413 + 0.3413 = 0.6826$	01
	$1000 \times 0.6826 = 682.6 = 683$	01
40	$H_0: \sigma^2 = \sigma_0^2, \quad H_1: \sigma^2 \neq \sigma_0^2$	01
	$\chi^2 = \frac{nS^2}{\sigma_0^2}, \quad \chi^2 = 14.4$	1+1
	$d.f = 24$	
	$\alpha = 1\%, \quad K_1 = 9.89, \quad K_2 = 45.56$	01
	Accept H_0	01
41	$H_0: \text{Attributes A \& B are independent.}$	01
	$H_1: \text{--- --- --- dependent}$	
	χ^2 — formula	01
	$\chi^2 = 3.2079$	01
	$\alpha = 5\%, \quad \chi^2(1) = 3.84$	01
	Accept H_0	01

Qn. No.		Marks
42	$R = 18,000 \quad C_3 = \text{Rs. } 400, \quad C_1 = \text{Rs. } 1.2$	01
	EOQ — formula = $\sqrt{\frac{2RC_3}{C_1}}$	01
	EOQ = 3464 / cycle	01
	$C(Q^0) = \sqrt{2RC_3C_3}$	01
	$C(Q^0) = \text{Rs. } 4156.92 \approx \text{Rs. } 4157/-$	01
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